General

Guideline Title

HealthPartners Dental Group and Clinics periodontal risk assessment guideline.

Bibliographic Source(s)

HealthPartners Dental Group and Clinics periodontal risk assessment guideline. Minneapolis (MN): HealthPartners Dental Group; 2011 Dec 2. 24 p. [83 references]

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: HealthPartners Dental Group and Clinics periodontal risk assessment guideline. Minneapolis (MN): HealthPartners; 2006 Mar 15. 23 p.

Recommendations

Major Recommendations

Measurements of Periodontal Disease

Each of these aspects of the appointment should be addressed at the initial hygiene visit and at every recall.

1. Medical and Dental History Update
    A. Medical History
        1. HealthPartners Medical/Dental History screen is updated.
        2. Be aware of questions relevant to periodontal disease, i.e., diabetes, human immunodeficiency infection (HIV) infection, certain medications (for example, chemotherapy), etc.
    B. Dental History
        1. Record date of last professional visit at the initial exam. Does the patient comply with recommended recall intervals?
        2. Tobacco used:
            - Record in the medical history
            - Type and amount of tobacco used
        3. Ask patient if there is a history of periodontal disease in the family.
        4. Assess patient's dental knowledge regarding periodontal disease.
        5. Oral hygiene habits: record patient's current oral hygiene habits and frequency.
            - Frequency of brushing and flossing

- Use of other adjuncts

6. Radiographs:
    - Current radiographs (within 6 months in active disease, two years in maintenance, showing *at least 3 mm* of crestal bone with proper angulation)
    - A full mouth series, less than two years old, is indicated: if periodontitis is isolated to specific teeth, periapicals of those teeth, with current bite wings and a panographic radiograph are acceptable
    - A series of seven bite wing radiographs (four posterior vertical radiographs and three anterior bite wings) including 3 mm of crestal bone may be acceptable, especially for a patient in maintenance

2. Periodontal Charting
    A. Full-Mouth Probing (FMP)
        1. Each adult patient receives a FMP at their initial examination. All pockets, regardless of depth, are charted. Bleeding points are noted in red in the electronic dental record (EDR). At subsequent visits, only pockets >3 mm or that bleed on probing are charted.
        2. Walking the probe, regulated (standardized) pressure.
        3. Working end of probe is parallel to tooth surface.
        4. Record the deepest measurement in each of 6 areas per tooth (3 facial, 3 lingual).
        5. Clinical attachment level: measured in millimeters, recession is the distance between the exposed cemento-enamel junction (CEJ) and the point of attachment. Record most advanced area on the facial and lingual of each tooth.
    B. Plaque Control Record or Index (PCR or PCI)
        1. Defined: a method of quantifying the number of tooth surfaces in a patient's mouth that have plaque on them. By identifying where the plaque is found, the care provider can focus on the positive aspects of the patient's current home care (plaque removal), and offer suggestions to improve home care in other areas of high plaque. PCR records 4 surfaces per tooth: M, D, B, L.
    C. Bleeding on Probing (BOP)
        1. Probing should be done before the prophylaxis.
        2. Bleeding points are recorded directly after probing procedure, before rinsing, and before allowing patient to wipe tongue over teeth/gingival margin.
        3. BOP records 6 potential areas per tooth.
        4. Quantity of bleeding is not recorded in the BOP index, only whether blood was elicited or not elicited. A statement regarding quantity, spontaneity, general, or localized may be recorded in the progress notes.
        5. Exudate
    D. Mobility
        1. Use two blunt-ended instruments to visually detect buccal-lingual movement accurately (not fingers).
        2. Check mobility of all teeth.
        3. Record class of mobility according to the total amount of movement:
            - <1 mm = 1
            - 1 mm-2 mm = 2
            - >2 mm or depressible = 3
    E. Furcations
        1. Can usually be detected accurately during the FMP procedures unless the pocket is deep in the furcation area. In this case, a Nabor's probe may be useful.
        2. Classifying:
            - Class I = detectable concavity on root trunk only, slight bone loss
            - Class II = detectable roof in any furcation area on root trunk, partial bone loss between roots
            - Class III = detectable through-and-through passage of the probe, no bone within the arch of the furcation
    F. Gingival Status
        1. Describe in detail the appearance of attached and free gingival margin.
        2. Categories could include:
            a. Color (pink, red, pigmented, cyanotic)
            b. Shape and form of gingival margin (rolled, knife-edged, clefts, recession, etc.)
            c. Consistency and tone (edematous, friable, firm, etc.)
            d. Bleeding, the best diagnostic sign of inflammation (generalized, localized, spontaneous)
            e. Texture, least reliable (stippled, loss of stippling, etc.)

G. Diagnosis Codes
    1. Determine which diagnostic code best describes patient's periodontal status and record under the Perio tab in the EDR.
H. Risk Assessment
    1. Complete the periodontal risk assessment under the Risk tab.

Periodontal Risk Assessment

In the current research, predictors for risk of developing periodontal disease have been discovered. The goal of this section is for guidance in using these factors to assess each individual patient's risk of developing periodontal disease.

The factors should be considered collectively to determine one's risk. This is not a cookbook or an absolute diagnosis of the patient's risk of future pathology, but rather a tool that helps predict the patient's periodontal future. This should be made clear to the patient when discussing the final risk assessment.

Clinical judgment, when used in concert with this tool, will increase the accuracy of the assessment.

Four Primary Risk Factors

History of Periodontal Disease

Positive

As periodontal disease is chronic, a determination of whether the disease is stabilized or active must be made.

Active

Follow the treatment plan for the active disease category.

Stabilized

This patient is at risk to redevelop active periodontal disease. Most of these patients will appropriately fall into the high-risk group. However, some patients who have established a controlled state for a significantly long period of time may be better placed in the moderate group. Check to see if the lamina dura has been re-established. Clinical judgment is the final determinant.

Negative

Only those patients with no history of periodontal disease would be placed in the low risk group for this category. A negative history's predictive value is relative to age. Younger patients may be at risk without exhibited signs or symptoms of the disease.

Smoker

Positive

Current research suggests that the degree of risk of periodontal disease is dose dependent. Patients who smoke ten or more cigarettes per day are considered heavy smokers and should be placed at the high risk level for this category. Those who smoke fewer than ten cigarettes per day are considered light smokers and would be placed at the moderate risk level for this category.

Many of these patients may not clinically exhibit signs or symptoms of the disease due to the systemic changes that have occurred to the periodontal supportive tissues and their immune system.

This risk category specifically addresses cigarette smoking, however, pipe, cigar, and smokeless forms of tobacco also increase the risk of various oral diseases.

Negative

Nonsmokers may be placed at the low risk level for this category.

Diabetic

Positive

The level of periodontal risk depends on whether the patient's diabetes is controlled or uncontrolled. Currently the best indicator is the patient's glycosylated hemoglobin (HbA1c) level. The American Diabetes Association (ADA) suggests a level <7% indicating a controlled diabetic whereas

the American Association of Clinical Endocrinologists (AACE) suggest a level of <6.5%. The patient's HbA1c level can be found in Epic (if they have HealthPartners medical coverage).

Uncontrolled or Poorly Controlled

These patients are at the high risk level for any infectious disease including periodontal disease.

Controlled

Because their diabetes is controlled, these patients have fewer systemic complications and therefore may be placed at the moderate risk level for this category. If the clinical signs and symptoms are not consistent with an expected controlled status, then a medical consult would be in order to verify the disease status.

Negative

These patients may be placed at the low risk level for this category.

Immunodeficient

Positive

Immunodeficient patients have a difficult time fending off bacterial diseases, and periodontal disease is no exception. Patients who are HIV(+) or receiving immunosuppressive medications are to be placed at a high risk level for this category.

Negative

These patients may be placed at the low risk level for this category.

Five Modifying Risk Factors

These factors should be used to help determine if a patient is at moderate or high risk. The patient would also have at least one of the four primary risk factors.

Family History of Periodontal Disease

Positive

This could indicate three associations:

1. The patient could have inherited traits that place them at risk.
   OR
2. The patient may have become infected with the bacteria responsible for periodontal disease from family members.
3. The patient learned bad behaviors.

These three associations would place the patient at the moderate risk level in most cases. However, if periodontal disease is prevalent in the patient's immediate family, it may be more appropriate to place the patient at the high-risk level for this category.

Negative

These patients may be placed at the low risk level for this category.

Ethnicity

Certain ethnic groups appear to be at higher risk for certain periodontal diseases (e.g., African American, Asian, American Indian). Socioeconomic status and access to health care play an important role.

Age

The prevalence and severity of periodontal disease increases with age, as measured by clinical attachment level.

Plaque and Calculus

This category is more indicative of the patient's motivation, knowledge or compliance. The Plaque Control Record (PCR) measures the quantity of

plaque. Of greater importance is the bacterial composition of the plaque. Calculus will contribute to the chronicity of gingivitis or periodontitis.

Professional Dental Frequency

Patient who do not regularly visit the dentist have statistically more pocketing and are at a higher risk for experiencing attachment loss than patients who regularly visit the dentist.

Occlusal Trauma

Primary or secondary occlusal trauma is not an etiologic factor in causing periodontal disease but it can be an exacerbating factor.

Other Factors

Research is now underway evaluating factors such as obesity, physical inactivity, mental anxiety and depression to see if any or all play a role in periodontal disease.

Overall Risk Assessment

Once all nine risk factors have been examined, look at them collectively in order to give the patient an overall risk prediction of developing periodontal disease.

Low Risk

If none of the four primary risk factors is positive, the patient should be at a low risk level for developing periodontal disease.

Moderate Risk

The moderate risk level requires the most clinical judgment since the determination between moderate and low risk in the various categories is of great importance for proper risk assessment. Other considerations in determining periodontal risk include occlusal trauma and medications impacting the gingival tissues (e.g., Dilantin, calcium channel blockers, and antineoplastic medications).

High Risk

The following five categories have the most influence on predicting a high risk level:

1. Patient history of periodontal disease
2. Smoking (10 or more cigarettes per day)
3. Immunodeficiency
4. Diabetes (uncontrolled)
5. Systemic diseases impacting the periodontitis

If any one of these is positive, the patient may be considered at high risk for periodontal disease.

Clinical Algorithm(s)

Algorithms for periodontal risk assessment are provided in the original guideline document.

Scope

Disease/Condition(s)

Periodontal disease

Guideline Category

Prevention

Risk Assessment

Clinical Specialty

Dentistry

Intended Users

Dentists

Guideline Objective(s)

- To provide a means of identifying patients at risk for developing periodontal disease and providing education and other interventions in order to reduce their risk
- To better standardize the care according to the most current research, which, in turn, will allow dentists to tailor care and resources to better meet the individual's needs

Target Population

HealthPartners Dental Group patients

Interventions and Practices Considered

1. Medical and dental history update
2. Periodontal charting
    - Full-mouth probing
    - Bleeding on probing
    - Plaque control record or index
    - Tooth mobility
    - Furcations
    - Gingival status
    - Determining diagnostic code
    - Completing risk assessment
3. Periodontal risk assessment
    - Consideration of four primary risk factors (smoking, diabetes, immunodeficiency, history of periodontal disease) and five modifying risk factors (family history of periodontal disease, ethnicity, age, plaque and calculus, professional dental frequency)
    - Overall risk assessment

Major Outcomes Considered

Not stated

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

An online search from 2006 to 2011 was conducted using PubMed Medline and the Cochrane Database. The search was restricted to "human" and English language.

Search terms used were periodontal diseases/classifications, periodontal risk assessment, periodontal diseases with antibiotics, periodontal treatment and periodontal diseases with radiographs without date restrictions.

Number of Source Documents

18 articles

Methods Used to Assess the Quality and Strength of the Evidence

Not stated

Rating Scheme for the Strength of the Evidence

Not applicable

Methods Used to Analyze the Evidence

Review

Description of the Methods Used to Analyze the Evidence

Dentist committee members reviewed and discussed each of the articles used to update the guideline.

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Dentist committee members reviewed and discussed each of the articles used to update the guideline.

Rating Scheme for the Strength of the Recommendations

Not applicable

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

The existing guideline was updated in a draft format and circulated to HealthPartners dentists and dental hygienists for review and comment. Drafts were also sent to two outside experts in the field of periodontology for review and comment.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of evidence supporting the recommendations is not specifically stated.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

- Appropriate periodontal risk assessment
- Decreased prevalence of periodontal disease in HealthPartners Dental Group patients through early diagnosis and identification of risk factors
- Appropriate utilization of available resources to tailor care to meet the individual patient's needs
- Appropriate monitoring of patient outcome data in order to improve patient care delivery
- Increased use of preventive treatment options
- Education of patients and providers

Potential Harms

Not stated

Contraindications

Contraindications

Surgical treatment of periodontitis is usually contraindicated in current smokers due to the likelihood of recurrence of the disease and impaired healing.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Audit Criteria/Indicators

Clinical Algorithm

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

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Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

1995 (revised 2011 Dec 2)

Guideline Developer(s)

HealthPartners Dental Group - Professional Association

Source(s) of Funding

HealthPartners Dental Group

Guideline Committee

Not stated

Composition of Group That Authored the Guideline

The guideline committee comprised HealthPartners dentists and one dental hygienist.

Financial Disclosures/Conflicts of Interest

Not stated

Guideline Status

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This guideline updates a previous version: HealthPartners Dental Group and Clinics periodontal risk assessment guideline. Minneapolis (MN): HealthPartners; 2006 Mar 15. 23 p.

Guideline Availability

Electronic copies: None available

Print copies: Available from HealthPartners, 8170 33rd Avenue South, P.O. Box 1309, Minneapolis, MN 55440-1309; Phone: (952) 883-5151; Web site: http://www.healthpartners.com

Availability of Companion Documents

A list of potential measures is available in the original guideline document.

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on August 8, 2007. The information was verified by the guideline developer on August 28, 2007. This NGC summary was updated by ECRI Institute on February 27, 2012. The updated information was verified by the guideline developer on March 21, 2012.

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